

# The contribution of Bioregione research project to the development of local sustainable agri-food systems

SCIENZE DEL TERRITORIO  
2/2014

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## Introduction

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ISSN 2284-242X (online)  
n. 2, 2014, pp. 319-326

The growing interest for food quality and for its relations with all aspects of human life and habitats is accompanied by an increased awareness that food - or rather the food cycle - is a strategic point of view to understand and direct some of the main elements of our model of developments, which structure could be affected at the local, regional and global levels by simple changes of lifestyles and consumption patterns of single consumers. Lifestyles influence environmental, social and ethical issues such as healthy food, quality standards for agricultural products, improvement of environmental performance, land care, social cohesion, the re-connection of urban and country areas, the rational use of energy resources and goods, and much more.

Given the primary relevance of the agrifood system, the farming community nowadays experience, even in the Italian and Lombardy context, a phase of strong economic difficulty and loss of identity, which requires a rethinking of some of its key constituents to find systemic solutions to reverse the trend of this structural crisis which bad externalities reflect on other economic and social sectors. The research project Bioregione<sup>1</sup> has set itself the goal of developing approaches and tools to design a regional food systems capable of economic self-sustaining and to generate systemic positive effects, a similar process are undergoing in different areas of the world with the so-called experiences of *local food systems*, now depicted also by academic research (Feagan, 2007). The general objectives of the research are to improve the sustainability of agrifood cycles in Lombardy enabling the conditions for a virtuous encounter between an organized demand of quality food and different types of local sustainable production, in order to promote a change in agricultural production and its sustainability over time. This will become baseline condition for an overall improvement of the environment and landscape and for the preservation of territorial balance between urban and rural areas.

<sup>1</sup> Project BIOREGIONE: Promote a local and sustainable development through the territorial organization of the demand and offer for food products consumed by the institutional canteen systems (2012 – 2014) – funded by Fondazione CARIPLO in which participate: Università degli Studi di Milano Dipartimento di Scienze Agrarie e Ambientali (DiSAA) - Laboratorio di Geomatica; Università degli Studi di Milano Dipartimento di Economia Management e Metodi quantitativi (DEMM); Politecnico di Milano Dipartimento di Architettura e Pianificazione (DiAP) - Laboratorio Analisi Dati e Cartografia (LADeC) - Laboratorio di Progettazione Ecologica (LPE), Politecnico di Milano Dipartimento Built Environment Energy, Science and Technology. Scientific Coordinator: prof Stefano Bocchi.

The main cultural and scientific references of this research are: ecological agriculture, the territorialist approach and the analysis of the territorial metabolism and food chains (Bocchi, 2001).

### **1. Local and sustainable agrifood system in Region Lombardy**

In Western countries, agriculture mainly produces goods (commodities) for the global market and for the agrifood industry, according to a dominant model which is highly centralized, consisting of large food processing companies and marketing companies that are increasingly operating on a global scale (Van Der Ploeg, 2008).

The effects of globalization are particularly acute in agriculture, especially in Europe with a significant increase of the "food miles", which represent the distance between the point of production and the point of consumption as recently stated in 2012 by the report "Agricoltori e filiera corta" of INEA (National Institute of Agricultural Economy).

At the same time many stakeholders have complaint the imbalance situations between the food industry and farmers, in fact the latter retain a limited amount (16%) of the added value produced by the entire food chain, while higher percentages are the prerogative of the other relevant actors (Nomisma, 2008).

In addition, the cost for long-range transports of goods, especially of that agricultural commodities characterized by low prices, represent a limitation that in the future could be binding; moreover they generate a negative externality in terms of fossil fuels consumption, increase Green House Gases (GHG) and therefore the total environmental impact of the entire cycle (production - consumption - waste). Starting from the school canteen systems (consumption and organization), comparing the various methods of preparation, cooking and distribution of meals, a specific model (ELaR) is under definition. This model will allow to assess and represent the flows of matter and energy (Clementi and Scudo, 2010), spatially and geographically elaborated in order to evaluate and compare territorial scenarios of agrifood sustainability, with the ultimate goal to make this information easy to communicate while providing a decision support systems for policy makers.

This approach has its roots in the increasing demand for food commodities, as determined by major population surge on a global scale and by the change of the consumption habits of the middle and higher class of developing countries (nutrition transition), which could lead in the future to a different system of trade of food products and each country could be called upon to contribute to a greater extent in the production of food for domestic consumption, some countries such as Russia, Japan, China and the MENA region are acting according to Food Security Plans, which led different answers to the same question to secure national food consumption, such as cultivation of new lands, tariffs on imported food commodities, land grabbing in African countries, etc.

All these reasons seem to push towards the development of local agrifood system at, but it would be better to say *Bioregional*, in order to meet local demand and to structure new models of short chains on a regional scale. These will also help to rebuild multifunctional agrarian regions with high ecological and environmental values through the enhancement of agroecosystems services (re-

duction of GHG, mitigation of microclimate, ecological corridors, High Natural Value Farmland)

Local Agrifood Systems (SALs) can be an important tool for local development as they are able to locally retain a significant share of added value and SAL may be the driving force for local development under different aspects: territorial, economic, employment, social, cultural and environmental.

Local Agrifood Systems can be defined as alternative model to the current globalized one. SALs rely on complex and deep relationships between agricultural production, processing, distribution and consumption in a specific place (Dunn et al, 2010).

At this point a better insight on what is meant by the term "local" and what characteristics and perceptions of the different actors attribute to him, should be undertaken.

Unlike organic farming, there is no universally accepted definition or regulation of the terms "local food/local production". In part, it is definitely a geographical concept related to the distance between producers and consumers. But in addition to the geographic proximity between producers and consumers, however, local food can also be defined in terms of social relations and food supply chain that it generates. Geographical proximity is thus only one component of the definition of "local" (Thompson et al., 2008). There are a myriad of other features that consumers associate with the definition of local food systems, in particular methods of production. For example, sustainable production and distribution practices aimed at reducing the use of pesticides, fertilizers and energy, protecting the environment, and promoting the protection of biodiversity and agrobiodiversity. Some consumers extend the definition of sustainable agricultural production to include fair labor practices and animal welfare.

In January 2011, the Committee of the Regions has forcefully place the SALs issue to the attention of the bodies, through a formal request for an outlook opinion to the EU Commissioner for Agriculture Dacian Cioloș. In the document, the rapporteur, Lenie Dwarshus-Van de Beek, (Official European Journal, 2011) member of the provincial government of South Holland, setting out the issues and problems of European agriculture in the light of the challenges of the new CAP and proposed support for SALs as a tool for the development of agriculture and rural areas.

In the United States, with a certain advance on Europe, the issue of SALs was analyzed by means of a report by the USDA (United States Department of Agriculture) in May 2010 which outlined the concepts, impacts and consequences, as a consequence to a July 2007 report by the NACO - National Association of Counties (Martinez, 2010).

## 2. The distribution channels in the SAL

The market typology of the agricultural products can be either directly or through middlemen, a comprehensive comparison matrix is reported in table 1. Direct sale to the consumer is the distribution channel, often called "farm to fork", the different types of activities belong to channel, including farmers who direct sell their products (farmers' markets), Community Supported Agriculture CSA and *pick your own* experiences.

Sale through middlemen is the distribution channel which includes in the sale to retail chains and companies working in the field of catering. The target market for the first is again the single consumer while for the latter are the public and private institutions, such as schools and hospitals, company canteens etc.

For more than a decade even the Large Retail Companies, which typically offered commercial products (private labels and/or own brand), has started to open at products with territorial brands (the first forerunner was definitely the wine) and today PGI (Protected Geographical Indication) and PDO (Protected Designation of Origin) can be found in the shelf of their distribution points. Only recently, some chains have begun to make space to local products, a few examples of some interest were seen in Valtellina Valley (Sondrio, Lombardy) thanks to an specific agreement between producers or their association and retailers for the commercialization of local fruit and vegetables, mainly apples, and dairy products.

A distribution channel that is assuming great importance is the HORECA (Hotel, Restaurant, Catering). Since some years the restaurant and even more catering companies, driven by the demands of consumers and local public administration are scouting local products through a direct relationship with producers. Unfortunately this is a distribution channel rather not homogeneous and fragmented for which is very hard to define the current and potential market.

Engine of this revolution lies in Italian food traditions, which has always been characterized by regional cuisine traditionally based on local production and the increasing attention of consumers may provide another boost to the use of local products and the development of SALs.

Market Typology	Channel	Level of Organization	Potential Demand	N of farms involved	Marketing Strategy	Territorial benefit	Dimension of area involved
Direct sale	Direct	Low	Low	One	Private	Low	Local
Pick your own	Direct	Low	Low	One	Private	Low	Local
Farmers' Market	Direct	Average	Average	From Few to Many	Private and Public	Average	Municipality/province
CSA	Direct	Average	Average Low	From one to Many	Private	Average-Low	Mainly Local
GAS	Direct Indirect	Average	Average Low	From Few to Many	Private	Variable	Variable
Large Scale Retail	Indirect	High	High	Many	Private and Public	High	province/Region
HoReCa	Indirect	Average	Average high	From one to Many	Private	Average	Municipality/province /Region
Public catering system	Indirect	High	High	Many	Public	High	province/Region

**Table 1.** Comparison matrix for the distribution channels in SALs.

### 3. The case of institutional catering

This distribution channel is currently of greatest interest to the SALs for its direct relationship between local production and public administration/catering companies.

This sector accounts for a large share of the demand for food and also this demand is homogeneous and seasonal according to menus that facilitate a direct relationship with local production .

Fipe, Italian federation of retail outlets, has calculated that in the last thirty years, the average expenditure on food consumption outside the home has increased by 78.7% to € 2,118 per household. In 2008, 32.1% (national average) of meals were eaten outside the home.

If the trend detected by the latest opinion polls continue in this direction, in 2020 every Italian will spend at least 50% of its food outside the home.

The pause for lunch of the working class has helped the increasing of this phenomenon.

The institutional catering, and the school in particular, represent an important meeting point between production and consumption, which invest Public Administration and School Board with great responsibilities because allows parents and citizens to participate in choices and responsibilities, moreover is an interesting market for producers.

The Bioregione research activity aims to provide a methodological , systemic and structural contribution to the development of sustainable local food systems in Lombardy Region through streamlining supply chains, skilling and increasing environmental and territorial sustainability of the system, and improving the quality of products purchased and that of the service provided, coupled with a greater focus on sustainability and on the ethical and cultural aspects of eating together. Approach that has been defined with the neologism *bioregionalist* to distinguish an holistic and transdisciplinary approach in which the relationship between SALs and new patterns of eating out-of-home were investigated.

The institutional catering especially in urban areas produces a high number of daily meals and therefore requires a sufficiently large and organized offer that can satisfy that demand. The supply contracts are defined by tenders that require supplies for several years ( usually 3 to 5), maintenance of high quali-quantitative standards and price competitiveness.

Potential suppliers, such as small local producers, are rarely capable to respond to such big tenders and firstly they have to organize in associations and platforms to reach the objective to undergone the call for tenders.

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## Abstract

In the last few years there is a growing awareness that food - or rather the agri-food cycle - represents a strategic point of view to understand and orient the constituent elements of our development model at the different scales. Despite such primary importance of the agri-food universe, agricultural world is experiencing a period of harsh economic and identity emergency, which requires to rethink some factors to find systemic solutions to reverse the trend of this structural crisis. Along with the many experiences of Local Food Systems (LFS), the Bioregione Research Project has taken on the goal of developing , within the Lombardy territories, approaches and tools to help give shape to local food systems capable to self-sustain in economic terms and to generate positive systemic effects, creating the conditions for a virtuous encounter between the organised demand of quality food and different types of sustainable local production, in order to favour a change in agricultural production and its persistence over time, as a primary condition for the overall improvement of environment and landscape and for the preservation of territorial balances between settlements and open spaces.

**Keywords**

Local Food Systems, bioregion, systemic approach, encounter between demand and offer, territorial balances.

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2/2014

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